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JAPANESE FIRMS: COPING WITH THE HIGH YEN

Summary

Since 1985 the Japanese yen has almost doubled in value against the dollar and gained significantly against the currencies of its other major trading partners. For Japanese exporters this means that a given dollar-denominated sale in the United States, for example, fetches only about half as many yen as it did before. As they drafted strategies for the late 1980s, firms with their costs in yen and their revenues in dollars appeared to face a bitter choice: raise their prices in dollars and see their sales in foreign markets plummet or hold the line on dollar prices and suffer sharply lower profit margins. Either way, profits could be expected to plunge.

Japanese firms to date may have escaped this dilemma. Today many are enjoying record high profits, having obviously coped far better than expected with the soaring yen. In part, they can be credited with actions that led to their good fortune, but external factors over which they have little control also have played a role. Hindsight shows, as well, that the initial expectations of both outside observers and the firms themselves were based on an incomplete understanding of how exchange rate changes affect economies. On closer examination, however, the reactions of Japanese firms look like predictable, textbook responses to movements in the currency markets.

The Yen's Appreciation -- A Retrospective

In a now famous September 1985 meeting in New York City's Plaza Hotel, the finance ministers and the central bankers of the world's five leading

industrial countries hammered out an agreement to realign their currencies (see JEI Report No. 40A, October 21, 1988). They may have been more successful than they intended. From the Y242=$1.00 value that prevailed immediately prior to the meeting, the yen by early 1988 had risen as high as Y121 to the dollar. Since then it has fluctuated between that level and Y137 to the dollar. But, for a number of reasons, the 1985 meeting may be the wrong starting point and the yen-dollar rate the inappropriate measure if the objective is to measure how well Japanese firms have adjusted to the high yen.

- While the United States is Japan's most important trading partner, Japan trades with many countries. If those other countries' currencies rise in tandem with the yen, Japanese firms are able to maintain their competitive position. Even if, as is often the case, trade is denominated in dollars, Japanese exporters will be able to sell their products in those countries at approximately unchanged local currency prices.

- Exchange rates had begun a process of realignment some months earlier. For example, the dollar's peak against the yen actually occurred in February 1985.

- Prior to the appreciation that began by all accounts sometime in 1985, the yen and other currencies were at low levels against the dollar, reflecting several years of "benign neglect" that had permitted the dollar to increase in value.

- Inflation rates differ by country. Countries with higher rates of inflation than their trading partners may require a continually depreciating currency just to maintain existing levels of competitiveness.

Putting all these factors together, International Monetary Fund statistics suggest that the yen was about 3 percent weaker against the dollar in September 1985 on a trade-weighted, price-adjusted basis than it was in 1980. Considering the time it takes customers to respond to more favorable prices, the existence of long-term contracts and the time lost in filling and shipping orders, Japanese firms may have enjoyed the delayed benefits of a weak currency well into 1986 even while the yen was appreciating in value.

The yen's appreciation against its trading partners' currencies has been an ongoing process, at least until recently. As of September 1988 it had risen a real, trade-adjusted 32.5 percent compared to 1980 and 35.9 percent in the three years since the Plaza Accord. While remarkable, this three-year run-up in value is still far less than the 78.3 percent nominal rise measured against the dollar alone. Overall, according to the IMF's data, the yen has averaged a 3.7 percent gain in inflation-adjusted terms each year since 1980, suggesting a much less daunting challenge for Japanese firms than the rapid run-up over a shorter period of time implies.

The magnitude of the challenge facing Japanese firms, then, depends on the perspective they adopted. Those who believed that the weak yen of early 1985 would persist surely were shocked by the currency's subsequent rise and

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had to scramble to adjust. Those who adopted the long view were more likely to take the rapid rise over three years in stride. In fact, most Japanese firms appear to have fallen into the first camp and were unprepared when the yen started soaring. The story of how they and the Japanese economy adjusted is all the more interesting for that reason.

Exchange Rate Adjustments and the Economy

The yen's appreciation has affected every part of the Japanese economy.

Exports and Imports - When the yen appreciated, Japanese exporters found that, unless they increased their prices in foreign currencies, they received less in their own currency. Since they had to pay their workers, buy materials and provide a return to their stockholders in yen, foreign markets lost some of their appeal. They had two options regarding export pricing: raise their foreign currency prices, thereby selling fewer units than before abroad, or keep their prices unchanged, resulting in lower per-unit profits. Lower per-unit profits would make firms less interested in selling abroad. In short, production for export was likely to decline whether dollar prices were raised or not. Other factors being equal, unemployment or underemployment would rise and capacity utilization would decline. With many reasons to hold the line on dollar-denominated prices and few to raise them, yen-denominated export prices on average would decline substantially.

While exporters suffered from the yen's appreciation, importers had a heyday. Foreign goods became cheaper in yen even if the foreign supplier slightly raised prices. The Japanese importer then either could lower his own prices to Japanese consumers, redouble his efforts for promotion or offer better service for the same price in yen since his import costs were now lower. Either way, he was likely to capture sales from the locally based competition, leading to a second effect on the domestic economy: firms competing against import had to retrench, an action that, unless somehow offset, implied still higher unemployment or underemployment.

Comparing unit labor costs in manufacturing is one way of illustrating the plight of both exporters and importers. According to Professor Donald J. Daly of Canada's York University, between 1984 and early 1988 Japan's unit labor costs went from being 34 percent lower than those in the United States to 28 percent higher, although Japanese unit labor costs were still lower than those in Europe and Canada.[1]

The Wider Impact - If the yen adjustment process had involved only exporters, importers and import-competing firms, most Japanese would have been virtually unaffected since, like Americans, most work for firms that have little to do with foreign trade. Well over 30 million Japanese work for companies producing nontraded goods and in services industries, such as restaurants. They need not worry that imported goods or services will throw them out of business. (Foreign fast food outlets such as McDonald's -- which are very popular in Japan -- are the exception that prove this rule. At most only their capital and a few raw materials are imported. Most of their costs are for labor, which they hire locally.)

[1]Donald J. Daly, "Japanese Manufacturing Competitiveness: Implications for International Trade," Working Paper Series No. 53, Toronto: University of Toronto-York University Joint Centre for Asia-Pacific Studies, 1988, P. 22.

Workers and managers of companies making nontraded goods or providing services nevertheless felt a very strong impact from the yen's appreciation, partly because wage demands moderated throughout the economy. Companies in some export and import-competing product lines appeared to have surplus workers, who were generally available for alternative employment, either reassigned by their employers as part of a diversification move into nontraded goods lines or seeking another job on their own. To compete against the workers already in place, the job changers had to accept lower wages than otherwise.

In addition, inflation, already low, declined. Raw materials prices led the way -- plummeting 41.1 percent between 1985 and October 1988 -- but even wholesale prices for final goods dropped 5.8 percent during the same period. Moderate wage settlements played a role. So did the increase in imports of manufactured products, which may have dipped in price for the reasons given above. And exporters turned to the domestic market to sell their products. To make any headway, they had to cut prices, too. All these downward pressures on prices fed back on the export and import-competing sectors, offsetting some of their loss of international competitiveness. Even the moderate wage settlements looked acceptably attractive to workers in the face of lower inflation. In fact, real wages in the manufacturing sector continued to rise throughout the period of adjustment to the yen's appreciation that began in 1985.

The Role of Government Policies - Of course, government played a role. If it had reflated the economy to reduce unemployment arising from the problems of the export and the import-competing sectors, it would have risked depriving the economy of some of the benefits, direct and indirect, of the yen's appreciation. Keeping unemployment low and maintaining price stability are both important. Striking the right balance is not easy.

After 1987, at least, the Bank of Japan pursued a loose monetary policy, and the government operated under an expansionary fiscal policy. Under normal circumstances the BOJ policy, especially, might have been expected to lead to large price increases. Among other effects, these actions eased the burden of exchange rate changes for exporters, which experienced strong domestic demand for their products and, along with other producers, lower interest costs.

The policies so far have not led to overall inflationary pressures. Price changes have been consistent with the pattern suggested above: import and export prices have posted large declines, at least at the wholesale level, with domestic prices generally sharing some of the benefits and showing a remarkable stability (see Table 1). Domestic products compete as a source of supply with imports; domestic demand products are those products that are not exported.

Compared to wholesale prices, the ripple effect of exchange rate changes on consumer prices has been modest but, as of November 1988, they were only 2.2 percent higher than the average 1985 level, an outstanding performance in the light of double-digit annualized increases in the money supply in 1987 and 1988.

The Result: Shifting Industrial Structure - With so many changes set in motion, predictions became tricky. When the dust settled, the nontraded sectors of the economy could have been expected to have grown at the expense of the export and the import-competing sectors. These secondary reactions would have reduced or even reversed the initial effects of the currency appreciation

on the economy as a whole. But, because they were so hard to predict precisely, many analysts ignored these possible reactions during the early phases of yen appreciation in 1985 and the first part of 1986, making them too pessimistic about the ability of the economy to cope with the changes. As the process continued to unfold and as the yen's appreciation became more pronounced in late 1986 and 1987, these secondary effects became more apparent.

Table 1: Japan's Wholesale Price Index

(1985=100)

	Total	Domestic Products	Imports	Domestic Demand Products	Exports
1981	101.9	101.3	106.7	101.7	103.2
1982	103.7	102.2	115.1	103.3	107.3
1983	101.4	100.8	106.1	101.5	100.8
1984	101.1	100.9	102.5	101.1	101.5
1985	100.0	100.0	100.0	100.0	100.0
1986	90.9	93.8	64.2	91.8	84.9
1987	87.5	90.6	58.9	88.5	80.6
October 1988	86.7	90.0	56.5	87.8	79.8

Source: Bank of Japan

Data from a variety of sources demonstrate clearly the shifts that have occurred among Japanese industries. During the early 1980s, when the yen was comparatively weak, the manufacturing sector grew at the expense of the rest of the economy, whether measured by employment (see Table 2) or by sales (see Table 3). Since 1985 the process has been reversed: the rest of the economy has grown faster by both measures. Within the manufacturing sector, exports as a percentage of total sales increased from 1981 to 1985 but have declined since.

These data of course cannot demonstrate that the yen's appreciation was responsible; for example, to stimulate the domestic economy government policies would have moved the economy in the same direction even in the absence of exchange rate realignments. Still, the correlation between exchange rate movements and shifts in industrial structure is striking. Relative price changes -- which in this case reduce the measured share of exports in total manufacturing output -- have the effect of exaggerating the actual movement. Employment changes, however, which occur more slowly than demand shifts, have the opposite effect. Demand shifts can be expected to lag behind exchange rate changes. In short, while the data are far from perfect, they do not necessarily misrepresent the relative decline in export-oriented manufacturing.

A Bank of Japan analysis, using profit rates, also points toward a decline in the importance of export-oriented manufacturing. In fiscal years 1983 and 1984 (April 1, 1983-March 31, 1985), exporters had higher rates of profit than domestically oriented manufacturing firms. As the yen appreciated in 1985, export-oriented firms became less profitable, while domestically oriented firms' profits were steady. Despite a recovery beginning in FY 1986

for exporters, firms supplying the domestic market became more profitable than export-oriented companies and were expected to remain so at least through the end of FY 1988.[2] As firms respond to these profit signals, export-oriented industries will shrink relative to the rest of the economy.

Table 2: Japan's Changing Employment Structure

	Manufacturing Employment as Percent of Nonagricultural Employment*
1981	27.3%
1982	26.9
1983	26.8
1984	27.1
1985	27.2
1986	26.7
1987	26.1
1988 (January-October)	26.0

*Average of month-end figures.

Source: Management and Coordination Agency

Table 3: Japan's Changing Production Pattern

	Manufacturing Sales as Percent of Total Sales	Exports as Percent of Manufacturing Output
FY 1981	32.2%	24.5%
FY 1982	31.0	24.1
FY 1983	32.4	24.5
FY 1984	31.2	25.6
FY 1985	31.5	25.1
FY 1986	30.7	23.5
FY 1987	29.2	21.5

Note: The data in the two columns come from different surveys and therefore are not strictly comparable.

Source: Calculated on the basis of Ministry of Finance and Bank of Japan data.

[2]Bank of Japan, "Corporate Fixed Investment in Japan: Recent Expansion and Sustainability," Special Paper No. 167, September 1988, P. 33.

How Exporters Have Adjusted to the Strong Yen

Individual managers whose firms were reeling under the impact of the currency realignment took small consolation from the fact that their brethren in other industries were doing well as a result of the strong yen. Naturally, they wanted to do what they could to cope with their own predicament. Perhaps foremost among the questions facing them was what to do about export markets.

Exporters were in the fortunate position of finding that their overseas markets were drawing strength from the greater than expected growth in foreign economies, including that of the United States. If the yen had not appreciated, the markets for Japanese exports undoubtedly would have grown. As it was, economic growth abroad cushioned the impact of any export price increases.

For one group of exporters, the choice regarding prices was easy. If the markets for their products were highly competitive, raising prices was out of the question. In extreme cases, even a modest price increase would lead them to lose their entire overseas market. In these instances, they could be expected to scale back their level of production for export by at least using fewer workers and idling inefficient facilities. The idea was that the marginal good shipped overseas must not lead to smaller profits. For such firms, strategies to maintain market share made little sense; the firms had nothing in extra profits they could sacrifice for other goals.

Other companies were able to raise their prices substantially without losing their export markets. Clearly, hefty price increases on Japanese cars have not led Americans to abandon the dream of owning a new Toyota or Honda. Even for automotive manufacturers, though, higher prices have an effect: if the price goes high enough, potential American buyers of Japanese cars will opt either to keep their old car, substitute a European or Korean alternative, buy a low-end Japanese make or even purchase one of Detroit's offerings.

Despite the large price increases, Japanese car makers have been singled out for raising their prices less than they might have. One reason has to do with the restrictions on how much they can ship to the U.S. market. For car manufacturers and some other groups of exporters, Japanese export restraints, forced on Tokyo by Washington, artificially restricted the supply of Japanese-made products, raising their price or creating shortages prior to 1985. Given this background, a modest appreciation of the yen would lead a profit-seeking firm to hold the line on dollar prices, selling about the same volume as before at a smaller, but still ample, per-unit profit. The reason is that, at the original dollar price, the company would not be induced to offer less than its quota, leading the market to clear at the original price. Only substantial yen appreciation would lead to price increases.

With or without import restrictions or export quotas, no profit-seeking exporter would normally raise his dollar prices by the full amount of the yen's appreciation; to do so would invite sales to fall below the point of maximum profits, assuming that the product was not originally underpriced. Export price data bear out this assertion (see Table 4). Between 1985 and 1988 Japanese exporters in virtually every product line raised their foreign prices by less than the yen's appreciation. (Exceptions arise, for example, because worldwide dollar-denominated prices are rising in some competitive industries and Japanese firms are merely hopping on the bandwagon.)

Table 4: Extent of Dollar's Depreciation Passed Through in Japanese Export Prices, September 1985-October 1988

Product Line	Pass Through
Cars	64.2%
Trucks	58.0
Automotive Parts	50.6
Motorcycles	90.1
Ships and Boats	-10.0
Electric Machinery	51.5
Electric Power Apparatus	88.9
Insulated Wire and Cable	147.9
Television Sets	38.7
Videocassette Recorders	10.0
Radio Receivers	78.2
Microphones, Loudspeakers and Amplifiers	69.6
Appliances	63.7
Integrated Circuits	92.6
Nonelectric Machinery	60.6
Internal Combustion Engines	74.2
Agricultural Machinery	52.9
Computers and Peripheral Equipment	43.3
Other Office Machines	56.1
Metalworking Machinery	49.1
Textile Machinery	69.4
Construction and Mining Machinery	57.1
Heating and Cooling Equipment	119.3
Pumps and Centrifuges	65.7
Mechanical Handling Equipment	61.9
Bearings	73.9
Precision Instruments	60.6
Scientific and Optical Equipment	65.5%
Cameras	61.4
Copiers	74.2
Watches and Clocks	41.7
Steel	76.3
Bars, Rods, Shapes and Sections	92.4
Plates and Coils	62.7
Tubes and Pipes	49.5
Nonferrous Metals	75.7
Copper and Copper Alloys	71.5
Fabricated Metal Products	91.6
Structural Parts and Structures	140.9
Hand and Machine Tools	46.1
Organic Chemicals	66.5
Inorganic Chemicals	42.5
Plastic Materials	54.7
Tires	26.3
Paper and Paper Products	92.4
Tableware	84.4
Textile Fibers	41.7
Yarn	52.6
Synthetic Yarn	50.0
Fabrics	53.1
Cotton Fabrics	48.2
Synthetic Fabrics	50.5
Apparel	79.8
Fish and Fish Products	39.5
Total Exports	56.0

Note: The dollar depreciated 44.9 percent against the yen between September 1985 and October 1988 based on the rates the Ministry of Finance used to convert the export figures to dollars.

Source: Calculated from Japan Tariff Association, The Summary Report: Trade of Japan.

While some analysts have concluded from this pricing behavior that Japanese exporters are protecting market share at the expense of profits, that is not the case. Passing through less than 100 percent of the yen's appreciation has been a way of making the best of a bad situation in terms of profits. Furthermore, as Table 4 shows and the above arguments suggest, pass-throughs are usually smaller in highly competitive markets. Finally, after Japanese firms soften up their foreign customers for price rises, pass-throughs may increase. Pass-throughs averaged 51.1 percent between September 1985 and November 1987 but rose to 56.0 percent by October 1988.

Japanese exporters are scarcely happy about the prospect of the lower profits in yen terms implied by a less than 100 percent pass-through. But they have ways of ameliorating the prospect of worsened profitablity. They can:

- Buy foreign products or use labor and land available abroad that are relatively inexpensive as a result of the yen's appreciation. Table 5 shows how three of the largest electric equipment manufacturers -- Toshiba Corp., Mitsubishi Electric Corp. and Hitachi, Ltd. -- are increasing their procurement of inputs and manufactured goods abroad. Obviously the process still has a long way to go despite the previously noted tremendous change in the competitiveness of products manufactured overseas.

Table 5: Overseas Procurement and Total Sales in Japan's Electric Machinery Industry

(in billions of yen)

	FY 1987	FY 1988 (estimated)	FY 1989 (projected)
Hitachi, Ltd.			
Sales	Y2,920	Y3,100	Y3,300
Overseas Procurement	98	128	156
Toshiba Corp.			
Sales	2,683	2,700	2,900
Overseas Procurement	119	125	150
Mitsubishi Electric Corp.			
Sales	1,954	2,000	2,100
Overseas Procurement	84	94	119

Note: Dollar figures on overseas procurement were converted to yen using Y138.33=$1.00 for FY 1987 and Y125=$1.00 for FY 1988 and FY 1989.

Source: Computed from data in Nihon Keizai Shimbun.

In some cases Japanese firms produce for foreign markets in the countries involved; in other cases they manufacture in third countries, such as Korea or Taiwan, for export to Canada and the United States. Most dramatically,

some Japanese firms have tried out what has become an old standby for U.S. firms: producing abroad for import into the home market. This phenomenon, however, sometimes has been exaggerated in the news media. While the first measure (producing for the local market abroad) is now fairly widespread, Japanese firms so far have exercised the other options relatively infrequently. The Ministry of International Trade and Industry in May 1988 estimated that, by 1990, imports from the overseas plants of Japanese manufacturing firms will come to $5.1 billion, about 4 percent of 1987 Japanese imports. Further, while figures vary, most estimates are that less than 4 percent of manufacturing activity by Japanese firms is done outside Japan.

To some extent, exporters can save money without altering their production processes at all. For example, falling import prices offset some of the pain of lower export prices if the firm uses imported intermediate goods and raw materials. As noted above, the prices paid for raw materials and energy -- much of it imported -- dropped dramatically between 1985 and late 1988. While the soaring yen deserves much of the credit, other factors -- the most important of which is falling worldwide oil prices -- have also played a role. (For details of the effects of falling materials costs on Japanese exporters, see JEI Report No. 10A, March 11, 1988.) The Economic Planning Agency estimates that, between October 1985 and December 1987, the appreciating yen led to Y18.3 trillion ($146 billion at Y125=$1.00) of cost savings to Japanese firms; falling crude oil prices added another Y11.2 trillion ($89.6 billion). Remarkably, Japanese exporters have gotten a break on the cost side since 1985 in addition to lower priced imports; as Table 1 shows, even wholesale prices of domestically produced goods have fallen.

• Look to alternative markets. As Table 1 suggests, price declines have been less severe domestically than in foreign markets for Japanese manufacturers. Firms in a wide range of industries have become more dependent on the home market as the yen has appreciated (see Table 6). For some individual products, the change is much greater. In 1985 exports accounted for 75 percent of color television production, but by 1987 this figure had dropped to 36.6 percent. Over the same two years, exports of videocassette recorders dropped from 83.3 percent of total output to 70 percent.

Table 6: Exports and Domestic Sales in Selected Japanese Industries

(percent of production exported)

	FY 1985	FY 1986	FY 1987	FY 1988 (estimated)	FY 1989 (projected)
Electronics and Electric Machinery	45.5%	41.2%	40.2%	38.1%	37.5%
Cars	58.7	58.5	50.8	47.9	47.0
Nonelectric Machinery	30.9	31.7	30.8	29.4	29.3
Shipbuilding	67.8	59.4	58.3	75.0	85.1
Steel	32.6	32.5	26.9	24.7	24.6
Petrochemicals	9.9	14.9	13.2	12.2	12.5
Synthetic Fibers	26.6	29.4	25.3	22.9	21.5
Cement	11.5	6.9	5.9	6.5	6.3

Note: In volume terms except electric and nonelectric machinery, which are in yen.

Source: Computed from data provided by the Industrial Bank of Japan, Ltd.

Fortunately for Japanese manufacturers, the domestic market picked up steam in 1987 and 1988 just when they needed it most. Wherever competition was less severe, exporters raised dollar prices enough to cover the variable costs of supplying overseas markets while using the domestic market to cover a higher share of the fixed costs of production. For example, according to Fuji Bank, Ltd., the ratio of sales price to raw materials cost for machinery rose 5 percent in the domestic market, while it dropped about 10 percent in the export market between the third quarter of 1985 and the fourth quarter of 1987. This explanation is consistent with the price patterns evident in Table 1 and with the pass-through rates shown in Table 4.

• Diversify into sectors outside their home industry. Nippon Steel Corp., for example, is building amusement parks in Japan, thus becoming less dependent on the vicissitudes of the currency market. This phenonomen at the level of the individual firm, which often involves manufacturing firms seeking opportunities in service industries, is analogous to the overall growth of nonmanufacturing at the expense of manufacturing shown in Tables 2 and 3.

• Trim real or imagined fat. For example, some firms have redesigned products to use fewer parts, thereby saving money. VCRs now use a single motor to run both drives rather than the dual motors used in earlier models. But this and some of the other examples given in the news media are questionable. VCRs were falling in price prior to the yen's appreciation as the production technology improved. The difference after 1985 could be attributed to a decision not to pass all the ongoing cost savings along in price cuts. The improvement in VCRs is less an example of cutting fat than a continuation of technogical improvement.

More generally, examples of productivity improvements raise a key question: why now? If Japanese firms are as eager to make more money or to increase export sales as the conventional wisdom says, why did they wait until there was a crisis to act? Before 1985 foreign and domestic observers had a hard time finding any fat in Japanese businesses. Its discovery practically coincided with the yen's appreciation. In some markets where firms were earning large profits, cost controls may have lost their grip during the weak yen era. Most Japanese markets, however, are quite competitive, suggesting little fat was there for the trimming. As the VCR example and the following two possibilities suggest, lower costs were not necessarily a result of cutting waste.

• Try to increase adrenaline instead of reducing fat. Kenichi Ohmae of McKinsey & Co. has argued that the yen's appreciation created an opportunity to slash costs. In this view, Japanese firms have manipulated symbols, such as electricity usage, to create the impression among their employees of a crisis and to serve as a motivational devise to spur their workers to greater efforts. The process has extended to supplier firms. Toyota Motor Corp., for example, claims that half its Y160 billion ($1.3 billion) cost savings in the financial year ending June 30, 1987 came from squeezing lower prices out of its subcontractors. However, not all exporters have subcontractor networks as extensive as Toyota's, and some firms with subcontractors may have found them less cooperative than Toyota apparently did.

• Eliminate no longer needed muscle. Weak foreign markets and new domestic competition from importers and rivals at home have forced companies to

scale back their operations. Japanese steel firms, like their American counterparts a few years earlier, have shed capacity. These facilities now appear redundant only because of what appeared to be a permanent drop in demand.

For all these reasons, Japanese exporters are now widely believed to be able to operate profitably in the face of a yen much stronger than a few years ago. Usually the measure of this ability is the break-even point, defined as the value of the yen at which a firm's profits become zero. A company can lower the break-even point, say from Y120=$1.00 to Y100=$1.00, by vigorous cost cutting, higher profits on domestic sales, more importing, moving operations overseas away from the influence of the yen or by other means. Break-even points also have fallen as result of wealthy overseas economies that enable exporters to raise prices more in foreign currencies and maintain existing sales volumes better than would otherwise be possible.

Table 7 gives Fuji Bank's calculation of how break-even points for Japanese firms have changed since 1985. However, a firm might curtail its exports in the face of a rise in the yen that leaves the firm still above its break-even point. If the Japanese currency, for example, had risen to Y120=$1.00 in March 1988, Japanese car companies still would have been profitable overall, according to Fuji Bank, but export operations could have become unprofitable. Or both domestic and foreign operations could have been making money, but some foreign sales might have been coming at the expense of higher profits. If so, the company could increase profits by scaling back foreign operations, the break-even point notwithstanding. In other words, comparing actual exchange rates with break-even points gives little guidance by itself as to how firms are coping in export markets or whether manufacturers will expand or reduce their export activity. Nor does the steadily falling break-even point mean that Japanese firms will always be able to slay the exchange rate dragon in foreign markets. As much as anything, the fall in the break-even point since at least 1987 reflects rising domestic demand and profits that cover lower earnings on foreign operations. If the domestic economy were to slump, the downward trend of the break-even point would reverse.

Table 7: Break-Even Points in Japanese Industry

	April-September 1985	April-September 1986	April-September 1987	October 1987-March 1988
Nonelectric Machinery	Y204	Y148	Y127	Y101
Electric Machinery	203	148	126	109
Transportation Equipment	216	155	133	118
Precision Instruments	216	155	137	120
Weighted Average	210	152	131	114
Actual Exchange Rate (period average)	245	163	145	132

Source: Fuji Bank, Ltd.

In short, the appreciation of the yen, while reducing the profits of many Japanese exporters and import-competing firms, also created opportunities for manufacturers to exploit the shifting availablity of resources within the Japanese economy. Price stability, partly a consequence of the strong yen, was another benefit. Many of the actions of Japanese firms, including their export pricing policies, were little more than what would be expected of any company in the same situation. With few exceptions, then, the actions taken by Japanese firms should not have come as a surprise but be seen as an expected consequence of trying to make the largest possible profit. Playing an important role in strengthening the ability of firms to cope was the macroeconomic environment, which itself was partly a result of the exchange rate changes and which created new opportunities in the domestic market for exporters.

The Future

Japanese firms deserve credit for an adroit high-wire act, shifting resources from one set of activities to another with little margin of error. The latest performance further embellishes the already considerable postwar reputation of Japanese firms as economic supermen. But high-wire artists sometimes fall and even Superman has his limits. Among the potential hazards that might cause Japanese firms to cope less successfully:

- Most obviously, if another string of yen advances made the Japanese currency much stronger than Y100=$1.00, more firms -- while still making money on their operations worldwide -- would find that they were no longer covering the marginal costs of their exports with what they could charge in their export markets. Exports would decline.

- Cost-cutting clearly has limits. As early as November 1987, for example, an unnamed Mazda Motor Corp. spokesman was quoted as saying, "You cannot keep squeezing water out of a towel that has already dried up. At Mazda, we have exhausted countermeasures against a profit slump."[3]

- Of course, firms might cope with the yen's appreciation by shifting even more production abroad and diversifying still further. As they do so, the fortunes of the company could be uncoupled from that of its employees and the Japanese economy generally. Existing employees could feel redundant or uncomfortable working in the new industries into which their firm diversified. Even if plenty of good jobs remain available in Japan, the skill composition of those jobs may not match those of the workforce, particularly for older people.

- If the yen appreciates again, the domestic demand safety net may not be in place this time around. Most macroeconomic forecasts call for a stable yen over the next year and a half or so and a modest slowdown in domestic growth. If this forecast proves incorrect on both counts -- and the yen soars in the face of a pronounced downturn -- some Japanese firms could be in trouble.

- Importers may start to influence the domestic market more significantly. If the import market share expands substantially because of the yen's past or ongoing appreciation, exporters could find that plunging domestic

[3]Quoted in Nobuo Takahashi, "Rise of Yen Full of Pain, but Japanese Firms Promise to Cope", Japan Economic Journal, November 14, 1987.

prices eliminate the home market as a safe haven. Domestic demand no longer would be available to absorb a shift of fixed costs from overseas markets. The profit-maximizing foreign price would not change, so average prices and profits would be lower. In this case, too, corporate and consumer interests would diverge; consumers would benefit from the lower prices, better variety and improved service that more vigorous import competition would bring.

- Foreign economies, including that of the United States, could weaken. As a result, export prices would soften in foreign currencies, export volumes would suffer and profits would decline.

In short, the events of the past three years provide another chapter in the remarkable story of the Japanese economy, but they do not demonstrate that Japanese firms can cope successfully with any exchange rate under any circumstances. Some economic circumstances could develop to make life difficult for Japanese firms and workers.

On the whole, however, an alternative scenario is more likely. Japanese firms are likely to prosper at home and find ways to minimize the negative impact of the yen's high value on their operations abroad. Since 1985 the result of the yen's appreciation has been more, not less, involvement of Japanese firms in the U.S. economy as one response to exchange rate changes has been to invest in manufacturing capacity in this country. Rival American firms that had hoped exchange rate changes alone would defeat their Japanese competitors have been disappointed and are likely to be disappointed again. But for Americans who buy Japanese products and, increasingly, work for Japanese firms or use Japanese technology, the prospect that Japan-based companies will continue to have an important U.S. presence means that this country will continue to reap many benefits from having such a dynamic economic partner.

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The views expressed in this report are those of the author and do not necessarily represent those of the Japan Economic Institute.